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From: Commanding Officer, Navy Environmental Health Center
To: Commanding Officer, Engineering Field Division Atlantic, Naval Facilities Engineering Command (Linda Cole), 1510 Gilbert Street, Norfolk, VA 23511-2699

Subj: HEALTH AND SAFETY PLAN REVIEW BASE WIDE AT NAVAL WEAPONS STATION AND THE CHEATHAM ANNEX SITE, YORKTOWN, VA

Ref: (a) E-mail EFD Atlantic L. Cole/NEHC D. McConaughy of 1 Oct 04

Encl: (1) Subject Health and Safety Plan Review
(2) Review of Baker Respiratory Protection Program

1. Per reference (a), we have completed a review of the subject document and are forwarding our comments to you as enclosure (1). A review of Baker's Respiratory Protection Program is provided in Enclosure (2).

2. We are available to discuss the enclosed information by telephone with you and, if you desire, with you and your contractor. If you require additional assistance, please call Mr. Donald J. Coons at (757) 953-0936 or Mr, David F. McConaughy at (757) 953-0942. For questions or assistance on the respiratory protection program, please contact Mr. David Spelce, at (757) 953-0719. The DSN prefix is 377. The e-mail addresses are: coonsd@nehc.med.navy.mil; mcconaughyd@nehc.med.navy.mil and spelced@nehc.med.navy.mil.

C. P. RENNIX
By direction

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NAVY ENVIRONMENTAL HEALTH CENTER
ENVIRONMENTAL PROGRAMS DIRECTORATE

Health and Safety Plan Review

Location: Yorktown, Virginia

Command: Naval Weapons Station

Site: Base-wide at NWS and at the Cheatham Annex Site

Work Description: Master Health and Safety Plan

Document Date: July 2004

Contract No/Contract Task Order No: N62470-02-D-3052/046

EP Document No: 1602

Prepared for: NAVFAC EFD ATLANTIC

Prepared by: Baker Environmental, Inc.

Date Received: 4 October 2004

Reviewed by:

Mr. Donald J. Coons, (757) 953-0936, coonsd@nehc.med.navy.mil, DSN 377

HEALTH AND SAFETY PLAN REVIEW

Ref: (a) 29 CFR 1910.120 (Hazardous Waste Operations and Emergency Response)
(b) 29 CFR 1926.65 (Hazardous Waste Operations and Emergency Response)
(c) Navy/Marine Corps Installation Restoration Manual (February 1997)
(d) U. S. Army Corps of Engineers, Safety and Health Requirements Manual, EM 385-1-1, November 2003
(e) 29 CFR 1910.134, Respiratory Protection
(f) 29 CFR 1910.95, Occupational Noise Exposure

General Comment: We compared this health and safety plan (HASP) to federal requirements found in references (a) through (d), and have noted discrepancies in this HASP from these primary references. The acronyms used in our comments are included as Attachment (1).

Administrative Comment: Reference is noted in Section 1.1, "Policy," and in Section 1.2, "References," to a US Coast Guard Instruction (COMDTINST-M16465.30) pertaining to hazardous chemical release response. Guidance found in this document focuses on procedures dealing with hazardous material spills to inter-coastal and coastal waters under the jurisdiction of the US Coast Guard. A more appropriate guidance document for land based remediation projects may be the US Army Corps of Engineers Safety and Health Requirements Manual EM 385-1-1, dated 3 November 2003. A copy of this manual may be downloaded from the Internet at: http://www.usace.army.mil/inet/information/usace-docs/eng-manuals/em385-1-1/entire.pdf .

Specific Comments:

1. Pages 2-1 through 2-3, Section 2.0, "Personnel and Responsibilities":

Comment: It is unclear which one of the various company officers will be responsible for establishing communications with all potential emergency response organizations prior to commencing on-site work.

Recommendation: Provide information clearly stating which assigned company officer is tasked with establishing communication with all potential emergency responders in the final Master Plan and each site-specific health and safety plan.

2. Pages 3-1 through 3-10, Section 3.0, "Site Characterization":

Comments:

a. Section 3.3.2.4, "Noise," provides no information stating how sound level pressures of various pieces of equipment were determined or if they have been properly labeled as required by 29 CFR 1910.95.

b. Section 3.3.5, "Task-Specific Hazards," includes no guidance for preparing a site-specific activity hazard analysis (AHA) for each major task prior to start of site work.

Recommendations:

a. Include information as to how sound pressure levels were/will be determined. Additionally, provide guidance for properly labeling/placarding all noise producing equipment including safe distance from equipment when operating.

b. Provide guidance to ensure proper completion of site and-task specific AHAs for each major task to be performed under this scope of work. We recommend the three column format found on page 8, Figure 1-2, of the U. S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, November 2003 for its simplicity and ease of use to ensure completeness.

3. Pages 5-1 through 5-2, Section 5.0, "Monitoring Documentation":

Comments:

a. The second sentence in Section 5.5, entitled "Equipment Maintenance and Calibration," states "Equipment calibration under the direction of the SHSO will be completed daily before use."

b. Information provided in Section 5.6, entitled "Monitoring Documentation," states that monitoring information will be recorded in the field logbook of the SHSO or other personnel performing the monitoring. However, it does not include a method for informing monitored site workers of the results of the air monitoring.

Recommendations:

a. We recommend that all direct reading air monitoring equipment be calibrated before and after each period of use in a accordance with manufacturer's instructions and standard industrial hygiene practice.

b. Include information in the final Master Plan and site-specific health and safety plans stating how monitored employees will be informed of the monitoring results.

4. Page 7-2, Section 7.3, "Equipment Decontamination":

Comment: The second sentence states, "Specific decontamination procedures can be found in the Master FSAP and Site-Specific Project Plans."

Recommendation: To facilitate the use of the referenced decontamination guidance we recommend including the general information/specific guidance referred to in the FSAP and include this guidance in the Master HASP as well as in the site-specific health and safety plans. This can be accomplished by including the information as an appendix or an attachment.

5. Pages 8-1 through 8-9, "Emergency Procedures":

Comments:

a. This section is entitled "Emergency Procedures." It is unclear if this is an emergency response plan or an emergency action plan. If Baker personnel will respond in the event an emergency should arise, then an emergency response plan meeting the requirements of 29 CFR 1910.120 or 1926.65 must be provided. If Baker personnel will evacuate the site if an emergency situation arises, then an emergency action plan meeting the requirements of 29 CFR 1910.38 must be provided.

b. The first sentence, second paragraph, Section 8.7, entitled "Injuries," states "There will be a minimum of one person, during each phase of field activities, that will be trained in standard first aid and adult CPR." Guidance found in references (c) and (d) above requires that at least two persons trained and certified in adult first aid/CPR be available on-site during all periods of work to render aid in the event an emergency situation were to arise.

c. The sixth bullet in the first paragraph of Section 8.9, "Personnel Protection and First Aid Equipment," cites the availability of full-faced cartridge respirators for use during emergency response. It is unclear if these respirators are for use by qualified Baker personnel, or if they will also be provided for the use of emergency responders, such as ambulance crews.

d. The last piece of equipment cited in the third paragraph of Section 8.9, "Personnel Protection and First Aid Equipment," is a 15-minute Emergency Eye Wash Station. It is unclear if this equipment complies with the American National Standards Institute (ANSI) ANSI Z358.1-1998 criteria.

Recommendations:

a. If Baker personnel will respond in the event an emergency situation arises at the work site/s, then an Emergency Response Plan meeting the requirements of 29 CFR 1910.120 and 29 CFR 1926.65 must be provided. If Baker personnel will evacuate the site in the event an emergency arises, then an Emergency Action Plan meeting the requirements of 29 CFR 1910.38 must be provided.

b. Ensure that at least two site personnel, trained and certified in adult first aid/CPR are on-site at all times work is being performed. Additionally, ensure that these assigned personnel have received training in the Bloodborne Pathogens criteria as codified at 29 CFR 1910.1030.

c. Include information stating who Baker will supply with respiratory protection. If emergency response personnel will be provided with respiratory protective equipment, then information pertaining to their medical and training status must be included in the site-specific HASP.

d. Include information stating that the emergency eyewash equipment meets the requirements of ANSI Z358.1-1998 in the final plan. Additionally, the personal eyewash bottles are only to be used as an adjunct to and not as replacements for the 15-minute units.

6. Page 10-1, Section 10.1, "General":

Comments:

a. The first sentence of the second paragraph is an incomplete sentence. The sentence should read, "All Baker employees that will engage in site activities . . . who has been provided information . . .."

b. The last sentence of the second paragraph cites additional specific tests that are included in a Group III exam. No information pertaining to periodic (i.e., initial baseline, or annual) audiograms is included. Employees meeting the criteria found at 29 CFR 1910.95(d) – (g) should be enrolled in the company hearing conservation program and receive baseline and periodic audiograms as indicated.

Recommendations:

a. Revise the sentence in the final plan.

b. Where required, we recommend including information pertaining to the hearing conservation program to include information regarding the frequency that audiograms will be performed.

7. Appendix B, "Baker Environmental, Inc., Standard Operating Procedures":

Comments:

a. SOP 4.0, "Bloodborne Pathogens" includes no information/guidance directing that first aid/CPR providers be offered HBV vaccine prior to any potential exposure/s occurring as required by 29 CFR 1910.1030(c)(1)(ii)(B) and 29 CFR 1910.1030(f)(i) & (ii).

b. SOP 5.0, "Heat Stress" is noted to be incomplete in that information pertaining to anticipated body temperatures of a person/s experiencing heat exhaustion or heat stroke(i.e, sub-normal to slightly elevated with heat exhaustion, and temperatures of 104 degrees Fahrenheit or higher with heat stroke) or, the proper methods of field treatment or management are not included in the plan.

Recommendations:

a. Revise document to include correct guidance to ensure that emergency first aid/CPR responders have been offered or received the HBV vaccine prior to potential exposures.

b. Include guidance for determining body temperatures of site workers showing signs of heat stress injury and the proper treatment and field management of personnel experiencing heat stress injury. Additional guidance for the proper treatment and field management of heat casualties can be found in the NIOSH "Occupational Exposure to Hot Environments," 1986 Revised Criteria.

Appendix B, Baker Environmental, Inc., "Safety Standard Operating Procedures":

The following comments and recommendations are provided by Mr. David Spelce, CIH, Industrial Hygiene Directorate, Navy Environmental Health Center.

REVIEW OF BAKER RESPIRATORY PROTECTION PROGRAM

1. Page 2-1, paragraph 2.2 - Spell out SRN the first time it is used.

2. Page 2-1, paragraph 2.3 - The respirator program must be implemented by a suitably trained program administrator. Either the Project Health and Safety Officer or the Project Manager needs to be designated as the respirator program administrator. The other can assist with implementing the program, but again there needs to be one overall program administrator having the responsibility for the program.

3. Page 2-1, paragraph 2.4 - Change first sentence to "...engineering and administrative controls **shall be implemented if feasible**."

4. Page 2-2, paragraph 2.4 - Add "Skin adsorption" to the list of respirator selection factors and modify "Sorbent limitations" to read "Sorbent limitations and service life." Also modify "Respirator attributes" to "Respirator attributes and limitations."

5. Page 2-2, paragraph 2.5 - Modify "Respirator fit testing (qualitative)" to:

"Respirator fit testing (qualitative) (quantitative fit testing for Full face respirators worn for protection between 10 and 50 times the OEL)"

6. Page 2-2, paragraph 2.6 - Full face North air-purifying respirators come in small, medium, and large sizes.

Note: Ensure that there are a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, all the employees.

7. Page 2-3, paragraph 2.7 - In subparagraphs one and four, change "G-7.1-1989" to "G-7.1-1997."

8. Page 2-3, paragraph 2.7 - Delete the third subparagraph.

Note: These standards are obsolete.

9. Page 2-3, paragraph 2.7 - In the fifth subparagraph, delete "A receiver of sufficient capacity to enable the respirator wearer to escape from a contaminated atmosphere in the

event of compressor failure, and alarms to indicate compressor failure and overheating shall be installed in the system."

Note: Per 1254 of the preamble to 29 CFR 1910.134:

"Paragraph (d)(2)(ii) of the prior standard required air compressors to have a receiver of sufficient capacity to permit the respirator user to escape from a hazardous atmosphere in the event of compressor failure. However, under paragraph (d)(2) of the final standard, the only respirators that can now be used in IDLH atmospheres are either SCBAs or supplied-air respirators with an auxiliary self-contained air supply for escape. Consequently, a requirement for an air receiver to permit escape from IDLH atmospheres is no longer needed in the final rule. Also, the prior respiratory protection standard, in paragraph (d)(2)(ii), required compressors to have alarms to indicate compressor failure and overheating; this requirement was part of the same provision that specified that a receiver for escape from a contaminated atmosphere in the event of compressor failure be available. This alarm requirement was deleted from the proposal and is not part of the final standard. An alarm to indicate compressor failure or overheating is unnecessary in non-IDLH atmospheres since, as OSHA stated in the proposal, the respirator user can readily exit the hazardous area if the respirator fails."

10. Page 2-3, paragraph 2.7 - Add the following sentence to the end of this paragraph:

"There will also be assurance that carbon monoxide levels in the breathing air from non oil-lubricated compressors do not exceed 10 ppm."

11. Page 2-4, paragraph 2.9 - Include the following sentence after the third sentence of the first paragraph:

"A written record of monthly emergency respirator inspections shall be maintained."

12. Page 2-5, paragraph 2.10 - Add a period after "seal."

Note: Typographical error.

13. Page 2-5, paragraph 2.10 - Add the following sentence before the last sentence in the first paragraph:

"Quantitative fit testing is required for personnel wearing full face respirators as protection against atmospheres containing concentrations between 10 and 50 times the occupational exposure limits."

14. Other issues:

a. It is understood that this document is a master plan. However, ensure that worksite-specific procedures are developed for each area where respirators are required, which includes issues such as specific types of respirator cartridges.

b. Respirator chemical cartridge change out schedules must be established and implemented for chemical cartridge air-purifying respirators based on objective data to ensure cartridges are changed prior to breakthrough of gas and vapor contaminants through the cartridge into the facepiece. If cartridge change out schedules are not established and implemented, then atmosphere supplying respirators or air-purifying respirators with appropriate end-of-service-life indicators must be worn instead. This was not addressed in this document.

c. The effectiveness of the respirator program must be evaluated periodically. This was not addressed in this document.

d. There was mention of possibly needing SCBA or combination airline/SCBA respirators; however, there were no procedures provided for how and when employees would enter immediately dangerous to life or health atmospheres.

e. Workplace surveillance and monitoring was not addressed here. Was it addressed elsewhere in the Master Health and Safety Plan?

f. Medical surveillance of personnel requiring respirators was not addressed. Medical surveillance would help provide evidence of the effectiveness of the respiratory protection being worn.

g. The use of contact lenses and provision for corrective vision while wearing full face respirators were not addressed.

h. Qualifications for fit test operators were not addressed. Recommend using the guidance of ANSI Z88.10-2001 for training fit test operators.